

I claim:

1. A pulse tube cooler in combination with a cooling load wherein
said cooling load is contained within the envelope of the pressure vessel of said
pulse tube cooler, and wherein
flow distributor means are interposed between said cooling load and the pulse
tube of said pulse tube cooler.
2. The combination of claim 1 wherein said cooling load is an electrical device.
3. The combination of claim 2 wherein said electrical device is selected from the group
consisting of motors and generators.
4. The combination of claim 2 wherein said electrical device comprises a rotating element
of a device selected from the group consisting of motors and generators.
5. The combination of claim 2 wherein said electrical device is selected from the group
consisting of electromagnets and transformers.
6. The combination of claim 2 wherein said electrical device comprises components
selected from the group consisting of transistors, diodes, capacitors, rectifiers and
integrated circuits.

7. The combination of claim 2 wherein said electric device comprises an electro-optical device.
8. The combination of claim 7 wherein said electro-optical device senses radiation in the infrared spectrum.
9. The combination of claim 7 wherein said electro-optical device comprises a focal plane array.
10. The combination of claim 1 wherein said cooling load comprises an electro-optical device, and wherein
said envelope of said pressure vessel of said pulse tube cooler contains a transparent window.
11. The combination of claim 1 wherein said cooling load comprises superconducting material.
12. The combination of claim 1 wherein said cooling load comprises superconducting wire.
13. The combination of claim 1 wherein said flow distributor means are selected from the group consisting of stacked screens and perforated plates.

14. The combination of claim 1 wherein said flow distributor means are selected from the group consisting of diffuser nozzles and diffuser cones.